

**TOP SECRET****PRIORITY**

TOP SECRET 090025Z SEP 69 CITE [REDACTED] 6984

25X1

25X1

25X1

CORONA  
REF A.  
REF B.  
REF C.  
REF D.

out 68344

9 SEP 69 01 38Z

SUBJECT: MISSION 1107, PHOTOGRAPHIC EVALUATION INTERIM REPORT (PEIR)

## 1. NUMERICAL SUMMARY:

MISSION NO. &amp; DATES: 1107-1 - 24 JULY TO 1 AUGUST, RECOVERY 2

AUGUST 1969, 0425Z

1107-2 - 1 TO 11 AUGUST 1969, RECOVERY 12

AUGUST 1969, 0013Z

LAUNCH DATE &amp; TIME: 24 JULY 1969, 0131Z

VEHICLE NO.: 1652

CAMERA SYSTEM: CR-7

PAN CAMERAS: AFT LOOKING 314 FILM TYPE: 3404

FORWARD LOOKING 315 FILM TYPE 3404,  
3401 (100 FT.)

DISIC UNIT NO.: 11

STELLAR LENS: PORT-F/2.8, 1.5 SEC., NO FILTER.  
STARBOARD F/2.8, 1.5 SEC., NO FILTER.  
FILM TYPE 3401TERRAIN LENS: F/6.3, 1/500 OR 1/250, W12 FILTER  
FILM TYPE 3400

RECOVERY REVS: MISSION 1107-1, REV 147

MISSION 1107-2, REV 308

0130Z TO 0202Z

LAUNCH WINDOW:

## 2. CAMERA SETTINGS:

FWD LOOKING

WRATTEN, W-23A (PRIMARY)

WRATTEN, W-21 (ALTERNATE)

SLIT WIDTH POS. 1 - .168 INCHES (MEASURED) PGM

POS. 2 - .215 INCHES (MEASURED) DAS

POS. 3 - .268 INCHES (MEASURED) DIA-XX4

POS. 4 - .335 INCHES (MEASURED) SPAD

FAIL SAFE - .301 INCHES (MEASURED) DAP

AFT LOOKING

WRATTEN, W-21 (PRIMARY)

WRATTEN, SF-05 (ALTERNATE NOT USED DURING CMX  
MISSION)

SLIT WIDTH POS. 1 - .120 INCHES (MEASURED)

POS. 2 - .159 INCHES (MEASURED)

POS. 3 - .201 INCHES (MEASURED) ADVANCE CY

POS. 4 - .225 INCHES (MEASURED) SANITIZED

FAIL SAFE - .220 INCHES (MEASURED) WITH TEXT

3. PERFORMANCE SUMMARY: THE PET JUDGES THE OVERALL IMAGE QUALITY OF MISSION 1107 TO BE FAIR, AND NOT COMPARABLE TO AN AVERAGE J-3 MISSION, BUT BETTER THAN AN AVERAGE J-1. THIS COMMENT RELATES ONLY, OF COURSE, TO THE AFT LOOKING CAMERA AS THERE WAS NO USABLE IMAGERY FROM THE FWD LOOKING CAMERA. THE PIS REPORTED THAT, "THE OVERALL QUALITY OF THE AFT LOOKING CAMERA RECORD IS SLIGHTLY LESS THAN THAT OBTAINED FROM PREVIOUS J-3 MISSIONS. THE PI SUITABILITY FOR THIS MISSION RANGES FROM FAIR TO GOOD WITH THE MAJORITY IN THE FAIR CATEGORY. THE REDUCTION IN SCALE AND LACK OF STEREO COVERAGE REDUCED THE EFFECTIVENESS OF THIS MISSION." IT IS THE OPINION OF THE PET THAT THE GENERAL IMAGE QUALITY OF THE AFT LOOKING CAMERA RECORD IS COMPARABLE TO WHAT WAS EXPECTED FROM THAT INSTRUMENT, CONSIDERING THE OPERATIONAL ASPECTS OF THE MISSION (I.E., ALTITUDE, LAUNCH TIME, AND THE MEASURED QUALITY OF THE LENS.) THE SELECTED LAUNCH TIME RESULTED IN THE USE OF SHORTER EXPOSURE TIMES DURING THE LATTER PORTION

DISTRIBUTION		
CY	OFFICE	PI
1	FILE	
2	CABLE SEC.	
	PF&B/RD	
	SECUR.	
3/4	TSSG/ARSD	1
	PSG/OC	
	RRD	
	REPRO	
	AID	
	IEG	
	PROD	
	SCIEN	
	WEST	
	EAST	
	M&S	
	PGM	
	DAS	
	DIA-XX4	
	SPAD	
	DAP	
		25X1

**TOP SECRET**GROUP 1  
Excluded from automatic  
downgrading and  
declassification

25X1

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OF THE MISSION. THIS CORRELATES WITH THE OBSERVED IMPROVEMENT IN QUALITY OF THE PHOTOGRAPHY AS THE MISSION PROGRESSED. THE MIP RATING FROM MISSION 1107 (95) IS CONSISTENT WITH THE FACT THAT THIS MISSION HAD THE HIGHEST PERIGEE OF ANY J-3 MISSION. THE POORER SCALE WAS REFLECTED IN THE PI QUALITY RATINGS, MISSION 1107 HAVING 7.5 PERCENT OF THE TARGETS RATED GOOD COMPARED TO AN AVERAGE OF 18.0 PERCENT GOOD FOR THE FIRST SIX J-3 MISSIONS.

THE FAILURE OF THE FWD LOOKING INSTRUMENT AND THE RESULTANT LOSS OF STEREO DESERVES SPECIAL COMMENT. [REDACTED] PERSONNEL PRESENTED AN ANALYSIS WHICH CONSISTED OF THE RESULTS OF A PI SURVEY TO DETERMINE THE TYPES OF TARGETS ADVERSELY AFFECTED BY THE MONO COVERAGE. IT WAS REPORTED THAT THE PIS CONSIDERED THE LOSS OF STEREO A SIGNIFICANT PROBLEM THAT SERIOUSLY AFFECTED FOUR SPECIFIC CATEGORIES OF IMAGERY:

(1) SMALL OBJECTS - WHILE THE PRESENCE OF AIRCRAFT, VEHICLES, TENTS AND ELECTRONIC EQUIPMENT WAS DETECTABLE, IDENTIFICATION BY TYPE AND ACCURATE COUNT WAS NOT ALWAYS POSSIBLE. RELIEF WITH STEREO AFFORDS MORE POSITIVE IDENTIFICATION OF TENTS IN DRAB DESERT AREAS. VEHICLES VS GREASE SPOTS, WHERE VEHICLES WERE PARKED, ETC.

(2) DIFFERENTIATING BETWEEN DIFFERENT TYPES OF SMALL AIRCRAFT AND DIFFERENTIATING BETWEEN FUEL TRUCKS AND HELICOPTERS IS NOT ALWAYS POSSIBLE.

(3) DETERMINING SPEED AND DIRECTION OF TRAINS AND CONVOYS IS A STANDING REQUIREMENT. SUCH ANALYSIS IS NOT POSSIBLE WITH MONO COVERAGE.

(4) DETERMINING STAGES OF CONSTRUCTION SUCH AS MOUNDING AND DEGREE OF EXCAVATION IS NOT POSSIBLE. THE PRESENCE OF EXCAVATION COULD BE DETERMINED BUT NOT ALWAYS SEPARABLE FROM SIMPLE VEHICLE ACTIVITY.

THE PET REQUESTS THAT [REDACTED] PERSONNEL PROVIDE A BRIEFING TO [REDACTED] ON THE INTERPRETABILITY OF STEREO VS MONO COVERAGE AT A TIME CONVENIENT TO BOTH OFFICES.

25X1

25X125X1

25X1

#### 4. ANOMALIES:

A. ANOMALY: THE FORWARD LOOKING CAMERA EXPERIENCED A CATASTROPHIC FAILURE DURING PASS D01. JUST PRIOR TO CAMERA SHUT DOWN, THE FILM TRANSPORT FAILED ALTHOUGH THE CAMERA COMPLETED THE SHUT DOWN SEQUENCE SATISFACTORILY. THE FOLLOWING IS A SUMMARY LIST OF FORWARD LOOKING CAMERA FAILURE INDICATORS WHICH WERE ABSTRACTED FROM THE TELEMETRY FLIGHT DATA.

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## FAILURE INDICATORS

ERRATIC ROTATION OF OUTPUT METERING ROLLER.  
 0.1 SECOND PAUSE ON INPUT IDLER ROLLER (5 PAUSES).  
 TAKE UP VOLTAGE RAMP DOWN STARTING AT IDLER FIRST PAUSE.  
 INCREASE IN FORWARD DRIVE VOLTAGE AND DECREASE IN REVERSE  
 DRIVE VOLTAGE.  
 UNREGULATED CURRENT RAMP INCREASE FROM 16 TO 30 AMPS.  
 TACH-FEEDBACK INDICATORS SLOW DOWN STARTING AT 13TH CENTER  
 OF FORMAT (CF).  
 OUTPUT METERING ROLLER, INPUT IDLER, OUTPUT IDLER, INTER-  
 MEDIATE IDLER STOPPED SIMULTANEOUSLY AT 13TH CF.  
 INPUT METERING ROLLER STARTS SLOW DOWN APPROXIMATELY  
 13TH CF AND WAS STOPPED BY .7 SECOND LATER.  
 NO FILM MOTION FOLLOWING 13TH EXPOSURE.  
 DERAMP OF LENS ROTATION FOLLOWING 13TH EXPOSURE APPEARS  
 NORMAL.  
 CYCLE PERIOD OF 13TH FRAME WAS 30 MS SLOWER.  
 AFTER FAILURE, THERE IS A SLIGHT SPEED-UP OF UNIT WHEN  
 FRAME METERING ROLLER DISENGAGES (SCAN).  
 INPUT/OUTPUT IDLER RATIOS INDICATE SHUTTLE AGAINST 101  
 PERCENT STOP.

## CAUSE:

(1) UTILIZING ALL THE EXISTING TELEMETRY DATA, THE FAILURE  
 HAS BEEN ANALYZED IN DEPTH BY PERSONNEL OF [REDACTED] IT HAS BEEN 25X1  
 POSSIBLE, WITH SOME DEGREE OF CONFIDENCE, TO RECONSTRUCT THE SEQUENCE  
 OF FAILURE. HOWEVER, IT HAS NOT BEEN POSSIBLE TO PINPOINT THE ACTUAL  
 CAUSE OR CAUSES. TWO POSSIBLE CAUSES OF FAILURE HAVE BEEN  
 HYPOTHESIZED BY MEANS OF LOGICAL ANALYSIS:

(A) FILM RESTRICTION OR FILM VELOCITY REDUCTION AT THE  
 SHUTTLE INPUT.

(B) FILM RESTRICTION AT THE SUPPLY CASSETTE.  
 VISUAL ANALYSIS OF THE RECOVERED FILM PROVIDED NO ADDITIONAL  
 CLUES WHICH COULD ASSIST IN DETERMINING THE CAUSE.

(2) SINCE NO CAUSE HAS BEEN IDENTIFIED, NO ACTION IS RECOMMENDED  
 BY THE PET. SHOULD FUTURE EVENTS PROVIDE A BETTER ESTIMATE OF THE  
 FAILURE, RECIPIENTS OF THE PEIR WILL BE NOTIFIED VIA TWX. THIS ITEM  
 IS CONSIDERED CLOSED.

B. ANOMALY: THE PORT AND STARBOARD HORIZON CAMERA SHUTTERS  
 WERE NON-OPERATIONAL UNTIL FRAME 15 OF PASS D08. THE FIDUCIAL MARKS  
 ASSOCIATED WITH THESE A.O. EXPOSURES WERE PRESENT WHILE TM DATA  
 INDICATED AN ABSENCE OF SHUTTER COMMANDS.

CAUSE: TM INDICATED PROPER OPERATION PRIOR TO LAUNCH. PARTIAL  
 FAILURE OF THE RELAY WHICH SUPPLIED UNREGULATED VOLTAGE PULSE TO THE  
 HORIZON CAMERA SHUTTER, IS THE MOST PROBABLE CAUSE.

ACTION: NO ACTION IS RECOMMENDED BASED ON THE FACT THAT THE  
 RELAYS ARE SEALED AND THE FAILURE DOES NOT ADVERSELY AFFECT THE  
 PRIMARY MISSION.

C. ANOMALY: A SUBTLE LONGITUDINAL PLUS DENSITY MARK IS PRESENT  
 ON THE ORIGINAL NEGATIVE OF THE AFT LOOKING CAMERA. THIS MARK IS  
 ONLY OCCASIONALLY DETECTABLE.

CAUSE: THIS MARK IS TYPICAL OF AN ABRASION CAUSED WHEN THE  
 UMULSION WAS RUBBED DURING TRANSPORT.

ACTION: THE INTERMITTANCE OF THE MARK, BEING OBSERVED IN PART  
 II ONLY AND NOT BEING PRESENT DURING PRE-FLIGHT EVALUATION, PREVENTS  
 IDENTIFICATION OF THE SOURCE. NO FURTHER ACTION IS RECOMMENDED.

D. ANOMALY: TWO LIGHT LEAKS AFFECTED THE AFT CAMERA FILM. ONE  
 PRODUCED A SMALL SPUR-LIKE FOG PATTERN ON THE FOURTH FRAME OF SOME  
 PASSES. THE OTHER AFFECTED THE FULL WIDTH OF THE FILM FOR SEVERAL  
 INCHES ON THE SIXTH FROM LAST FRAME OF MOST 1107-1 PASSES. THE DENSITY  
 OF THE FOG PATTERNS VARIED WITH THE LENGTH OF INOPERATIVE PERIODS.

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CAUSE: THE FOG ON THE FOURTH FRAME WAS CAUSED BY A LIGHT LEAK AT A CORNER OF THE FORWARD CAMERA DRUM. THE FOG ON THE SIXTH FROM LAST FRAME WAS PROBABLY DUE TO A LEAK AT A LATCH OF THE "A" RECOVERY VEHICLE INTERFACE. FOG DENSITY WAS GREATER THAN USUAL BECAUSE OF LONGER INACTIVE PERIODS EXPERIENCED ON THIS FLIGHT.

ACTION: NO ACTION IS INDICATED FOR EITHER OF THESE LEAKS.

D. OTHER ANOMALIES NOTED IN REFS A AND B WERE DISCUSSED AND CONSIDERED BY THE PET AS INHERENT IN J-3 SYSTEMS OPERATIONS. THESE ANOMALIES ARE BASICALLY AESTHETIC WHICH DO NOT AFFECT THE ACTIVE PHOTOGRAPHY, AND DO NOT WARRANT INDIVIDUAL COMMENT OR EVALUATION.

5. DISC CAMERA PERFORMANCE:

A. 1107-1

(1) THE STELLAR CAMERAS FUNCTIONED PROPERLY THROUGHOUT THE MISSION AND RECORDED A FULL FIELD OF STARS ON THE PORT CAMERA ONLY. MOST PORT FRAMES CONTAIN 15 TO 25 STAR IMAGES. DUE TO THE ORBIT PLANE SUN ANGLE, A HIGH LEVEL OF SOLAR ILLUMINATION WAS PRESENT AT THE STARBOARD LENS THUS COMMANDING THE STARBOARD CAMERA CAPPING SHUTTER CLOSED FOR APPROXIMATELY 90 PERCENT OF THE MISSION.

(2) THE TERRAIN CAMERA IMAGE QUALITY IS GOOD AND IS THE BEST OBTAINED FROM THIS SYSTEM. THIS CAMERA HAD THE FIRST F/6.3 LENS USED OPERATIONALLY WITH DISC. THIS MODIFICATION TO THE PREVIOUS F/4.5 LENS IS INCORPORATED ON ALL BUT ONE REMAINING DISC.

1107-2

(1) THE LAST ACQUISITION OBTAINED FROM THE STELLAR CAMERAS IS FRAME 24 OF PASS 282. THE STARBOARD CAMERA CAPPING SHUTTER REMAINED CLOSED AS DESIGNED FOR APPROXIMATELY 20 PERCENT OF THE MISSION DUE TO A HIGH LEVEL OF INCIDENT SOLAR ILLUMINANCE AT THE LENS. DUE TO THE SUN POSITION, THE STARBOARD FRAMES ACQUIRED ARE MORE DENSE THAN THE CORRESPONDING PORT FRAMES. MOST STARBOARD FRAMES HAVE GREATER THAN 10 STAR IMAGES; MOST PORT FRAMES CONTAIN MORE THAN 20 STAR IMAGES. THE STELLAR RECORD WAS DEGRADED BY SEVERE DENDRITIC AND CORONA DISCHARGE.

(2) THE TERRAIN CAMERA FUNCTIONED PROPERLY UP TO FRAME 1 OF PASS 281. THE OVERALL QUALITY OF THE IMAGERY IS GOOD. APPROXIMATELY 15 PERCENT OF THE 1107-2 TERRAIN PHOTOGRAPHY IS PARTIALLY DEGRADED BY RELATIVELY SEVERE STATIC DISCHARGE.

B. ANOMALY: APPROXIMATELY THE LAST 5 PERCENT OF THE MATERIAL WAS NOT EXPOSED DUE TO A SYSTEM STALL. THE LAST ACQUISITION OBTAINED FROM THE INDEX CAMERA IS FRAME 1 OF PASS 281. THE LAST STELLAR ACQUISITION IS FRAME 24 OF PASS 282.

SEVERE, INTERMITTENT DENDRITIC AND CORONA STATIC DISCHARGE ON BOTH THE STELLAR AND TERRAIN RECORDS OCCURRED THROUGHOUT THE MISSION AND VARIED IN INTENSITY AND FREQUENCY. APPROXIMATELY 15 PERCENT OF THE TERRAIN FRAMES WERE AFFECTED.

CAUSE: BASED UPON DATA AVAILABLE AT THIS TIME, THE MOST PROBABLE CAUSE OF THIS ANOMALY WAS THE INTRODUCTION OF A DRAG ON BOTH THE STELLAR AND TERRAIN FILMS. BOTH THE STELLAR AND TERRAIN FILMS EXHIBIT STATIC MARKINGS, UNIQUE TO THE -2 MISSION, WHICH BEGIN IMMEDIATELY AFTER CUT AND SPLICE. (THE CUT AND SPLICE APPEARS NORMAL.) THIS MARKING INDICATES AN ABNORMAL CONDITION IN THE 1107-2 FILM PATH WHICH IS CONSIDERED PERTINENT TO THE EVENTUAL STALL NEAR THE END OF THE MISSION.

ANALYSIS OF T/M DATA AND CAMERA SYSTEM FAILURE MODE POSSIBILITIES INDICATE THAT NEITHER THE CAMERA BODY NOR TAKE-UP ARE A LIKELY DIRECT CAUSE OF THIS ANOMALY.

IT IS NOTED THAT THE 1107-2 END OF MISSION PRIMARY TERRAIN FILM CUT WAS ANOMALOUS. ABOUT ONE INCH OF SERRATED TEETH WERE

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MISSING AT ONE END OF THE CUT. ADJACENT TO THIS ABOUT 1 1/2 INCH EXHIBITED MISSING OR DAMAGED TEETH. THE OPPOSITE END OF THE CUT HAD RIPPED AND CRUSHED FILM FOR A DISTANCE OF ABOUT 1/2 INCH. IT IS NOT KNOWN WHETHER THIS CONDITION OCCURRED IN FLIGHT OR ON OPENING THE SRV AFTER RECOVERY. THE LIKELY SEQUENCE OF EVENTS LEADING TO THE ANOMALY ARE AS FOLLOWS:

(1) AN ABNORMALITY IN THE -2 FILM PATH PRODUCED SEVERE MARKING.

(2) A DRAG CONNECTED WITH ITEM 1 WAS APPLIED TO BOTH FILMS.

(3) THE EXCESSIVE HOLD-BACK LOAD ON THE TERRAIN FILM EVENTUALLY EXCEEDED THE PULLING FORCE SUPPLIED BY THE TERRAIN TAKEUP RESULTING IN A STALL; THE STELLAR TAKE-UP CONTINUING TO OPERATE.

(4) FINALLY, ENOUGH FILM SLACK WAS PRODUCED BY THE STILL OPERATING CAMERA BODY TO RESULT IN THE METERING/PINCH ROLLER PICKING UP A LOOSE FOLD AND WRAPPING ENOUGH SLACK FILM TO PRODUCE A TERRAIN METERING ROLLER STALL. THIS CONDITION WAS THEN REFLECTED THROUGH THE DRIVE TRAIN TO RESULT IN AN ESSENTIALLY COMPLETE DISC STALL.

NOTES: WITH EQUAL DRAG PER UNIT WIDTH OF FILM, THE TERRAIN TAKE-UP WOULD STALL BEFORE THE STELLAR TAKE-UP. THE DECREASING TENSION SUPPLIED BY THE TAKE-UPS WITH INCREASING FILM LOAD WOULD MAKE THIS FAILURE MODE MORE LIKELY TOWARDS THE END OF A MISSION. A WRAP-UP STALL HAS BEEN THE OBSERVED FAILURE MODE WHEN FILM SLACK DEVELOPS DOWNSTREAM FROM THE METERING ROLLERS.

ACTION: PERFORM ANALYSIS ON FILM PATH CLEARANCE TOLERANCES BETWEEN DISC EXIT BOX OUTPUT AND TAKE-UP INPUT AND DETERMINE POSSIBLE FAILURE MODES OF DEVICES NEAR THE FILM PATH.

DETERMINE FEASIBILITY OF CONDUCTING DISC PRE-FLIGHT TRACKING TESTS WITH THE RECOVERY VEHICLE COVER THAT SIMULATES THE FLIGHT CONFIGURATION.

DETERMINE FEASIBILITY OF PROVIDING VEHICLE WIRING BETWEEN THE DISC BODY AND TAKE-UPS TO PERMIT INSTALLATION OF A FEED-BACK LOOP TO CONTROL TAKE-UP TENSION.

ACTION IS ASSIGNED TO

ACTION DUE 15 OCTOBER 1969.

C. ANOMALY: A SUBTLE LIGHT LEAK IS EVIDENCED ON STARBOARD FRAMES WHICH WERE IN THE EXPOSURE POSITION WHEN THE SHUTTER WAS CAPPED. DEGRADATION TO ADJACENT STELLAR PHOTOGRAPHY WAS SLIGHT.

CAUSE: THIS ANOMALY WAS CAUSED BY LONG SIT PERIODS DURING WHICH THERE WAS A HIGH LEVEL OF SOLAR ILLUMINANCE AT THE STARBOARD LENS. SLIGHT LIGHT LEAKAGE AROUND THE SHUTTER MAY HAVE PRODUCED MINOR (NON DEGRADING) FOGGING ON THE RECORD.

ACTION: NONE REQUIRED.

D. ANOMALY - STELLAR RECORD (1107-1 ONLY)

MINOR DENDRITIC STATIC TRACES ARE PRESENT ON A FEW FRAMES. WAVERING PLUS DENSITY STATIC TRACES ARE PRESENT THROUGHOUT THE MISSION. DENDRITIC DISCHARGE IN THE STARBOARD FORMAT WAS RELATIVELY SEVERE.

CAUSE: DENDRITIC TRACES EMANATING FROM THE FILM EDGE ARE CHARACTERISTIC OF UNSPOOLING OR ROLLER FLANGE DISCHARGE. THE WAVERING PLUS DENSITY PATTERN IS CHARACTERISTIC OF THIS SYSTEM IN SOME SENSITIVE PRESSURE WINDOWS. SEVERITY IS MINOR. SOME CORRELATION BETWEEN MARKING AND PMU OFF PERIODS WAS NOTED. STARBOARD FORMAT DISCHARGE RESULTED FROM DIRT ACCUMULATION ON THE RESEAU PLATE.

ACTION: PRE-FLIGHT SPLICING AND THREADING PROCEDURES WILL BE MODIFIED TO MINIMIZE DISC FILM AND CAMERA EXPOSURE TO DIRT

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AND FOREIGN MATERIAL. ACTION ASSIGNED

ACTION DUE 15 OCTOBER

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1969.

## E. ANOMALY: TERRAIN RECORD (1107-1 ONLY)

MINOR DENDRITIC STATIC TRACES ARE PRESENT INTERMITTENTLY THROUGHOUT THE MISSION. PRESSURE INDUCED STATIC TRACES ARE PRESENT NEAR THE EDGE OF THE FILM, SOMETIMES ENTERING THE FORMAT A DISTANCE OF 2 TO 3 INCHES.

CAUSE: THESE MARKS ARE CHARACTERISTIC OF THIS SYSTEM IN SOME SENSITIVE PRESSURE WINDOWS. SEVERITY IS MINOR, SOME CORRELATION BETWEEN MARKING AND PMU OFF PERIODS WAS NOTED.

ACTION: NONE REQUIRED.

## F. ANOMALY: TERRAIN RECORD ON MISSION 1107-2 EXHIBITS HIGH TO EXCESSIVE DENSITY.

CAUSE: MOST HIGH TO EXCESSIVE DENSITY RESULTED FROM HIGH REFLECTANCE CLOUD AND WATER GROUND TARGETS. CHANGES BETWEEN THE 1/250 AND 1/500 SECOND EXPOSURE TIMES WERE PROGRAMMED NEAR 25 DEGREES SOLAR ELEVATION. GENERAL EXPOSURE APPEARS SATISFACTORY. SOME PHOTOGRAPHY AT LOWER SUN ANGLES (10 - 20 DEGREES) COULD HAVE HAD LIGHTER EXPOSURE BY A SLIGHTLY EARLIER ACTIVATION OF THE 1/250 - 1/500 SPEED CHANGE CLUTCH.

G. DISC NORMAL AND CHARACTERISTIC MARKINGS: OTHER ANOMALIES NOTED IN REF A AND B WERE DISCUSSED AND CONSIDERED BY THE PET AS INHERENT IN J-3 SYSTEM OPERATIONS. THESE ANOMALIES ARE BASICALLY AESTHETIC AND DO NOT AFFECT THE ACTIVE PHOTOGRAPHY, AND DO NOT WARRANT INDIVIDUAL COMMENT OR EVALUATION.

## 6. ACTIONS ITEMS:

THE PET DISCUSSED AND CONCURRED ON HANDLING OF ACTION ITEMS AS OUTLINED IN REF D. A DETAILED REVIEW OF OPEN ACTION ITEMS WILL BE CONDUCTED AT THE MISSION 1052 PET.

## 7. REVISION TO MIP RATING SYSTEM:

A DETAILED REPORT WAS PROVIDED BY [REDACTED] PERSONNEL CONCERNING THE REVISION OF THE MISSION INFORMATION POTENTIAL (MIP) RATING SYSTEM. A PRELIMINARY REPORT ON THE PROCEDURE WAS CONTAINED IN REF C AND A DETAILED REPORT WILL BE INCLUDED IN THE MISSION 1107 PER. THE NEW MIP SYSTEM WILL BE EMPLOYED FOR ASSIGNING FUTURE RATINGS TO 1100 SERIES MISSIONS. SPECIFIC CATEGORIES OF OBJECTS EXAMINED IN MAKING MIP DETERMINATION ARE: AIRCRAFT, BUILDING FORMS, AUTOMOBILES, EDGE SHARPNESS, NUMERALS ON RUNWAYS, GENERAL OVERALL QUALITY. THESE CATEGORIES COMBINE INTO THE ASSESSMENT SUCH FACTORS AS RESOLUTION, ACCUTANCE, SCALE, AND CONTRAST. USING THE NEW CRITERIA MIPS WERE REASSIGNED TO SEVERAL OF THE EARLIER 1100 SERIES MISSIONS. A LISTING OF THE MIPS ARE:

MISSION	WAS	IS
1101	95	85
1102	100	90
1103	95	90
1104	115	115
1105	100	95
1106	105	95
1107		95

IT SHOULD BE NOTED THAT SINCE SCALE AND RESOLUTION ARE INCLUDED IN THE MIP RATING THAT THE MIP HAS RESTRICTIONS AS A SYSTEM COMPARISON OR EVALUATION TECHNIQUE WITHOUT A PRE-MISSION PREDICTION OF THE MAXIMUM ATTAINABLE MIP ON THE ORBIT SELECTED. THE PET IS WORKING OUT PROCEDURES TO ACCOMPLISH PRE-MISSION PERFORMANCE PREDICTIONS FOR USE IN THE POST-FLIGHT ANALYSIS ACTIVITIES.

T O P S E C R E T

END OF MESSAGE

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